static mixing means supported in at least one mixing chamber provided downstream of said spraying chamber, so as to submit said granules to mixing,

d) submitting the mixed granules so obtained to drying for a time sufficient to allow a substantially complete absorption of the substance in liquid phase by the granules.

35. (New) Method according to claim 34, wherein said drying step is carried out in a drying chamber provided downstream of said mixing zone.

36. (New) Method according to claim 35, wherein the plastics granules flow by gravity in a substantially continuous manner through said spraying, mixing and drying chambers.

37. (New) Method according to claim 34, wherein said spraying step of the substance in liquid phase is carried out by means of a plurality of injectors supported within said spraying chamber.

38 (New) Method according to claims or 37, wherein said spraying step is carried out by nebulizing said substance in liquid phase in a plurality of droplets having a mean diameter comprised between 10 and 500 µm.

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39. (New) Method according to claim 37, wherein said spraying step is carried out by means of said injectors by intermittently injecting the substance in liquid phase at an injection frequency comprised between 500 and 2000 strikes/min and at an injection pressure comprised between 100 and 300 bar.

40. (New) Method according to claims 34 or 37, further comprising the step of splitting the continuous flow of plastics granules in a plurality of streams continuously flowing in respective flowpaths defined within the spraying chamber facing each of said injectors.

41. (New) Method according to claim 34, wherein said steps a) - d) are carried out at a temperature comprising the temperature between the melting temperature of the substance in liquid phase and the minimum temperature between the softening temperature of the polymer to be impregnated and the temperature at which the substance in liquid phase starts to thermally deteriorate.

42. (New) Method according to claim 34 wherein said spraying b) and mixing c) steps are carried out in a total time comprising between 10 and 40 minutes and that said drying step d) is carried out in a time comprising between 30 and 90 minutes.

43. (New) Method according to claim 34 wherein said step c) of mixing the granules is carried out by passing the granules partially or totally coated by said substance in liquid phase through a static mixer comprising a substantially pyramidal

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central body supported by a plurality of supporting legs at a predetermined distance from an inner wall of said mixing chamber and a plurality of baffles extending between said inner wall and respective openings for the flow of the granules defined between said supporting legs, said mixer being adapted to deviate the granules flowing in the central zone of said mixing chamber towards the peripheral zone thereof and the granules flowing in the peripheral zone of the mixing chamber towards the central zone thereof.

44. (New) Method according to claims 34 or 43 wherein said step c) of mixing the granules is carried out by passing the granules partially or totally coated by said substance in liquid phase through substantially static mixing means comprising a plurality of mixing bars.

45. (New) Method according to claim 44 wherein said step c) of mixing the granules is carried out by passing the granules partially or totally coated by said substance in liquid phase through at least two superimposed groups of mixing bars arranged substantially perpendicularly with one other.

46. (New) Method according to claims 35 or 36 wherein it further comprises the step of submitting the granules leaving the drying chamber to a soaking step in order to equalize the distribution of said substance in liquid phase into each of the plastics granules.

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47. (New) Method according to claim 34, wherein the granules are made of a plastics, wherein said plastics are polyethylene, ethylene-propylene copolymers, ethylene-propylene-diene terpolymers, ethylene-vinyl acetate (EVA) copolymers, or acrylic polyesters, wherein said acrylic polyesters are ethylene-methyl acrylate, ethylene-ethyl acrylate, ethylene- butyl acrylate groups, and mixture thereof.

48. (New) Method according to claim 34, wherein said substance in liquid phase is a cross-linking agent, cross-linking co-agent, thermal stabilizer, light stabilizer, voltage stabilizer, UV stabilizer, processing aid, lubricant, flame retardant, plasticizer, nucleating agent, additive for water-treeing resistance, and mixtures thereof.

49. (New) Apparatus for continuously introducing a substance in liquid phase into plastics granules, comprising a supporting structure adapted to support in series and in substantial vertical alignment:

- a feeding section of the plastics granules provided with means for feeding in a substantially continuous manner said granules to at least one spraying chamber provided with means for spraying said substance in liquid phase onto the plastics granules,

- at least one mixing chamber of the plastics granules partially or totally coated with said substance comprising substantially static mixing means supported in said mixing chamber,

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- at least one drying chamber adapted to, receive a predetermined amount of the plastics granules coated with said substance in liquid phase.

50. (New) Apparatus according to claim 49 wherein the means for feeding said granules in a substantially continuous manner comprises at least a dosing valve supported downstream of a storage tank of the granules.

51. (New) Apparatus according to claim 49 wherein the means for spraying the substance in liquid phase comprises at least one injector having a nozzle supported within said at least one spraying chamber said injector forming an angle (α) comprised between 90° and 45° with a longitudinal axis of the spraying chamber.

52. (New) Apparatus according to claim 49 wherein the means for spraying the substance in liquid phase comprises at least one injector having a nozzle supported within said at least one spraying chamber, said injector extending parallel to a longitudinal axis of the spraying chamber.

53. (New) Apparatus according to claim 52 wherein said injector is supported within said at least one spraying chamber.

54. (New) Apparatus according to claims 51 or 52 wherein the means for spraying the substance in liquid phase comprises a plurality of injectors angularly offset from one another.

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55 (New) Apparatus according to claim 53 wherein said at least one spraying chamber further comprises a shaped insert adapted to define in said chamber respective flowpaths of the granules facing each of said injectors.

56. (New) Apparatus according to claims 51 or 55 wherein said flowpaths are defined in respective open channels axially formed in said insert, said injector being oriented in such a way as to spray the substance in liquid phase into said channels in countercurrent to the continuous flow of the granules.

57. (New) Apparatus according to claims 52, 53, or 55 wherein said flowpaths are defined in respective closed channels axially formed in said insert, said injector being oriented in such a way as to spray the substance in liquid phase into said channels in countercurrent to the continuous flow of the granules.

58. (New) Apparatus according to claim 57 wherein said channels comprise opposite frustoconical end portions.

59. (New) Apparatus according to claim 52 comprising a plurality of spraying chambers arranged in parallel with one another, defined in respective ducts extending between said feeding section and said mixing chamber of the granules.

60. (New) Apparatus according to claim 59 wherein said ducts comprise a first portion forming an angle (β) comprised between 30° and 60° with the longitudinal

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axis of said apparatus, a second portion substantially parallel to the longitudinal axis of said apparatus, and a third portion forming an angle (γ) comprised between 30° and 60° with the longitudinal axis of said apparatus, and in that said spraying chambers are defined in said second portion.

61. (New) Apparatus according to claim 60, comprising a plurality of injectors each having a respective nozzle co-axially supported within said spraying chambers.

62. (New) Apparatus according to claim 61 wherein said injectors are oriented in such a way as to spray the substance in liquid phase cocurrently with the continuous flow of the granules.

63. (New) Apparatus according to claim 49, wherein said substantially static mixing means comprises at least one static mixer.

64. (New) Apparatus according to claim 63 wherein said at least one static mixer comprises a substantially pyramidal central body having respective faces, said central body being provided with a plurality of deviating wings projecting from each of said faces and being supported by a plurality of supporting legs at a predetermined distance from an inner wall of said mixing chamber, and a plurality of baffles extending between said inner wall and respective apertures for the flow of the granules defined between said supporting legs.

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